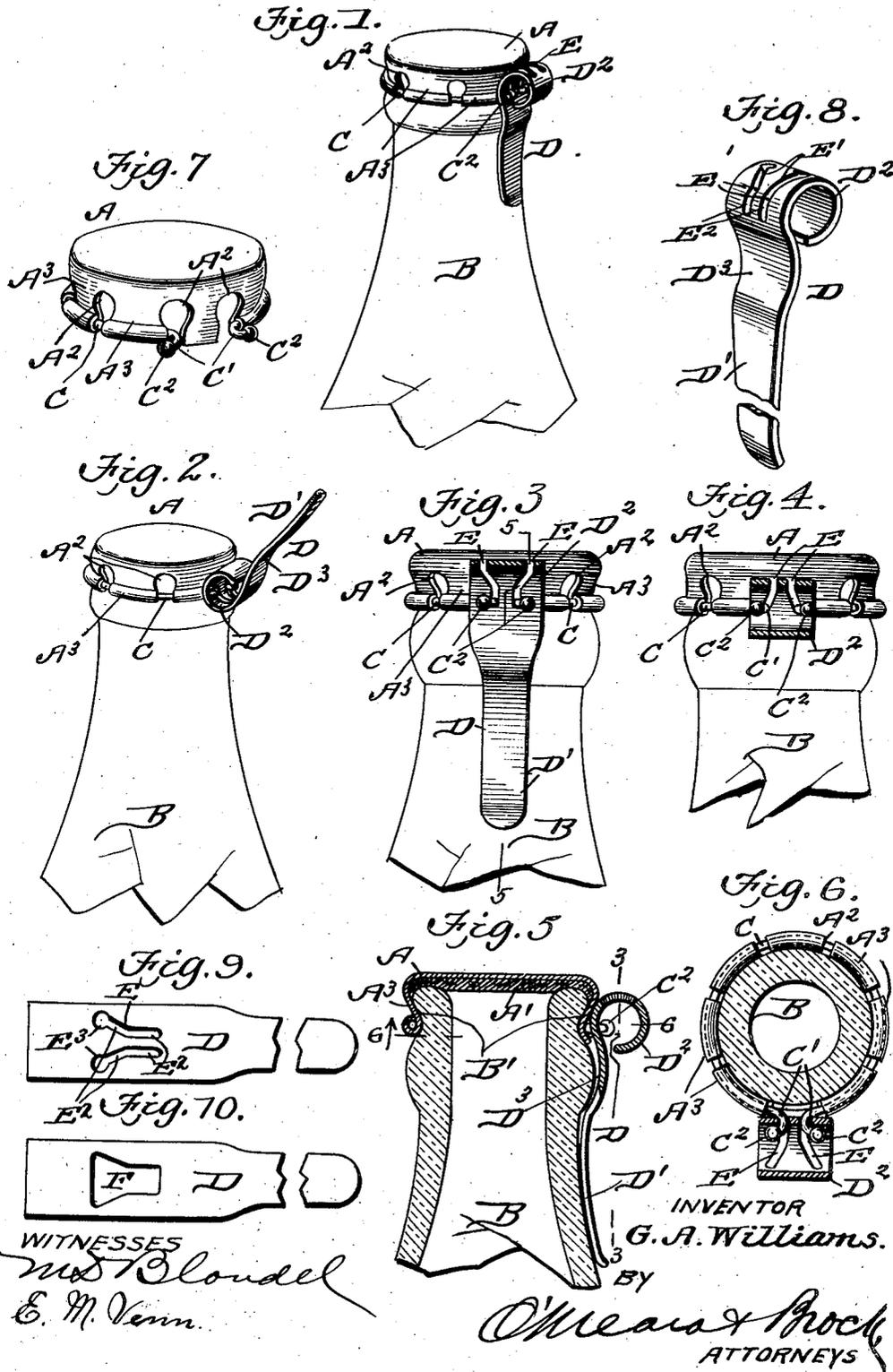


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PATENTED JUNE 5, 1906.

G. A. WILLIAMS.  
BOTTLE CAP FASTENER.  
APPLICATION FILED SEPT. 1, 1905.



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# UNITED STATES PATENT OFFICE.

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## BOTTLE-CAP FASTENER.

No. 822,567.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed September 1, 1905. Serial No. 276,702.

To all whom it may concern:

Be it known that I, GEORGE ALBERT WILLIAMS, a citizen of the United States, residing at Port Clinton, in the county of Ottawa and State of Ohio, have invented a new and useful Improvement in Bottle-Cap Fasteners, of which the following is a specification.

This invention relates to an improved means for fastening metal caps upon bottles, jars, and similar articles in which liquids and the like are kept; and the object thereof is to provide a device capable of ready attachment and detachment without the use of separate and specially-constructed tools.

A further object of the invention is to provide a device which may be readily removed when it is desired to gain access to the bottle, jar, or other article and as easily replaced to tightly reseal the bottle, jar, or similar article should only a portion of the contents thereof be used.

With these briefly-stated objects in view the invention comprises a metallic cap having yielding or flexible sides which are adapted to engage a flanged mouth of a bottle or jar, a ring or band encircling the said yielding sides, and a lever for contracting the said ring or band to securely and tightly clamp and lock the said cap in position, the said lever being constructed to lie snugly against the neck of the bottle or jar, so that practically no part thereof projects sufficiently to endanger its engagement with or being caught in other objects which would loosen the clamping-ring and cap, and consequently permit ingress of air to the bottle and destroy its contents.

The invention also comprises certain details of construction and peculiar combination and arrangement of parts, as will be fully described in the following specification and pointed out in the claims, reference being had to the drawings forming a part of this specification, in which—

Figure 1 is a perspective view of my improvement as applied to the mouth of a bottle. Fig. 2 is a similar view showing the locking-lever raised and in the position when the cap is first placed upon the bottle. Fig. 3 is a sectional view drawn about on the line 3 3 of Fig. 5. Fig. 4 is a sectional view drawn through the head of the lever when the latter is in its unlocked position. Fig. 5 is a sectional view drawn on the line 5 5 of Fig. 3. Fig. 6 is a sectional view drawn on the line 6 6 of Fig. 5. Fig. 7 is a detail perspective view of the cap, showing the lever de-

tached; and Fig. 8 is a detail perspective view of the lever. Fig. 9 is a detail view of the blank form of lever, and Fig. 10 is a similar view illustrating a slight modification.

As a prelude to the detail description of my invention, it may be said that I am aware of certain constructions intended for detachably securing metallic caps upon bottles, jars, and the like, but from actual experience have found them deficient and unequal to the requirements necessary for a practical device, and I have therefore constructed my invention to overcome these defects.

Referring to the drawings, A represents a shallow cap designed to fit upon the mouth of a bottle or jar B and having a packing A' of any suitable material arranged therein, which is intended to snugly fit the mouth of the bottle or jar when the cap is secured in position. This cap is preferably made of tin and has its sides provided with a series of slits A<sup>2</sup>, providing a series of segments A<sup>3</sup>, whose lower ends are bent back in tubular shape and upon a split ring or band C, which almost completely encircles the sides of the cap. The ends of the ring are bent outwardly to provide hooks C', the tips of which may preferably terminate in spherical heads C<sup>2</sup>; but these heads are not absolutely essential and may be dispensed with to cheapen the article, if desired.

A lever D is employed for drawing the ends of the ring or band together to contract the sides of the cap to lock it in position, and it consists of a handle portion D' having its lower end bent slightly outward and its opposite end bent into a cylindrical or tubular head portion D<sup>2</sup>. Immediately below the head portion D<sup>2</sup> the lever is bent or curved outwardly, as at D<sup>3</sup>, which forms a recess upon its inner surface that snugly fits the enlargement usually found upon bottles, and particularly beer-bottles. The head D<sup>2</sup> of the lever is formed with two slots E, which converge for a portion of their length toward the body or handle portion of the lever, as shown at E', and the remaining continuations of the slots are parallel, as shown at E<sup>2</sup>. These slots are designed to receive the hooked ends C' of the ring or band C, and when the heads C<sup>2</sup> are formed upon the hooks C' the slots have their extreme divergent ends enlarged, as shown most clearly at E<sup>3</sup> in Fig. 9 of the drawings, to facilitate attachment. When the hooked ends of the ring or band rest within the said enlargements E<sup>3</sup>, the

band is in its expanded position, so that the cap may be readily placed over the mouth of the bottle or jar; but when the lever is thrown downwardly the hooked ends will travel first in the converging portions of the slots to clamp the sides of the cap under the shoulder B', formed upon the exterior mouth portion of a bottle or jar, and finally in the parallel continuations of the slots to securely lock the cap and lever in position. It will of course be understood that the parallel continuations of the slots are of such length as to permit the lever to lie snugly against the neck of the bottle or jar.

During the operation of locking the cap the lever will of course be elevated by reason of the ends of the band operating in the slots; but this movement of the lever is facilitated by the cylindrical form of the head, which provides only a small contacting surface between the hooks and lever, and consequently decreases the friction-surface which would otherwise occur should the entire ends of the hooks engage the lever. It will be further seen, and particularly by referring to Fig. 5 of the drawings, that when the lever is in its locked position the cylindrical head portion will lie against the inwardly-bent portion of the cap with the spherical tip of the band resting at a point practically horizontally opposite the center of the cylindrical head, which further assists in locking the lever in position. Of course it will be understood that when the lever is first moved and the ends of the ring or band are caused to travel in the converging portions of the slots the ends of the band will be first drawn toward each other, which decreases the diameter of the band and draws in the segments of the cap under the shoulder B' of the mouth of the bottle, which of course locks the cap in position. During the locking operation of the cap its lower end, carrying the ring, will be drawn into the apex of the groove under the shoulder B' and a slight downward movement is effected, which presses the packing-strip around the edge of the mouth of the bottle and tightly seals the latter.

I may find it desirable in some instances to provide only one slot or opening F in the head of the lever to facilitate its connection to the hooked ends of the ring or band, especially when hooks are provided with spherical ends, and in this case the outer portions of the sides of the slot or opening F will be widest and converge toward the body of the lever to a given point, where they will continue upon a longitudinal parallel line. I therefore do not wish to limit myself to the construction of the lever having two slots, as first described, although the first construction is preferred, as it decreases the liability of the lever being detached and oftentimes lost. It may be further pointed out that the segment lying between the ends of the ring or band is

not bent back, but is left to lie practically flat, so that the parts may be more easily connected.

From the foregoing it will be seen that I provide a very cheap, simple, and highly-efficient locking device by which a cap may be readily placed and locked upon a bottle or jar and one capable of easy reapplication after it has been removed and it is desired to reseal the bottle or jar.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A bottle or jar closure, comprising a cap having yielding sides, a split ring encircling the sides, and a lever having a cylindrical head to which the ends of the ring are connected.
2. A bottle or jar closure, comprising a cap capable of being clamped upon the mouth of the bottle, a split ring carried by the cap and having its ends terminating in hooks, and a lever having a cylindrical head provided with slots in which the hook ends of the ring operate.
3. A bottle or jar closure comprising a cap capable of being clamped upon a mouth of a bottle, a split ring carried by the cap and having its ends terminating in hooks, and a lever having a cylindrical head which is provided with converging slots in which the hook ends of the ring operate.
4. A bottle or jar closure comprising a cap having yielding sides, a split ring encircling the sides, the ends of the ring being bent outwardly to provide hooks and a lever having converging slots in which the hook ends of the ring operate.
5. A bottle or jar closure comprising a cap having yielding sides, a split ring carried at the lower ends of the sides of the cap and a lever provided with slots which converge for a portion of their length and in which the hooks of the ring operate.
6. A bottle or jar closure comprising a cap having yielding sides, a split ring carried by the sides and having its ends terminating in hooks, and a lever provided with a cylindrical head having slots which converge for a portion of their length toward the body of the lever and which terminate in parallel continuations, the said slots being designed to receive the hook ends of the ring substantially for the purpose set forth.
7. A bottle or jar closure, comprising a cap having yielding side portions, a split ring carried by the side portions, and a lever having a cylindrical head which is provided with converging contacting surfaces against which the hook ends of the ring engage.
8. A bottle or jar closure, comprising a cap having slits in its sides to provide a series of segments and the lower ends of which are bent back in tubular form, a split ring carried by the said tubular portions, the ends

of the ring being bent to form hooks, the extreme ends of which terminate in spheres, and a lever having a cylindrical head provided with converging slots in which the hook ends of the ring operate, the said spheres of the hooks engaging the inner surfaces of the head substantially as set forth.

9. A bottle or jar closure comprising a cap having yielding side portions, a packing-disk arranged within the cap, a split ring carried by the cap and at the lower ends of its side portions, the said ring having its ends terminating in hooks, the extreme ends of which

terminate in spherical heads, and a lever having one end terminating in a cylindrical head portion in which is arranged slots that converge for a portion of their length and which terminate in parallel continuations, the said hooks operating in the slots to reduce the diameter of the ring, substantially for the purpose set forth.

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Witnesses:

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